# DOCKET NO. 91-C-134D2 (STMI01-00098) Customer No. 30425

**PATENT** 

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of : Ravishankar Sundaresan

United States Serial No. : to be assigned

Filing Date : to be assigned

Prior United States Serial No. : 08/193,725

Prior Filing Date : February 9, 1994

Prior Examiner : G.C. Eckert, II

Prior Group Art Unit : 2815

Title : METHOD OF FORMING ASYMMETRICAL

POLYSILICON THIN FILM TRANSISTOR (AS

AMENDED)

# MAIL STOP PATENT APPLICATION

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

### **INFORMATION DISCLOSURE STATEMENT**

Pursuant to the duty of disclosure under 37 C.F.R. § 1.56, Applicant submits this statement. This submittal is made in accordance with 37 C.F.R. §§ 1.97 and 1.98 and § 609 of the Manual of Patent Examining Procedure. The patents, publications and other information herein are listed below and on the attached Form PTO/SB/08. In accordance with 37 C.F.R.

§1.98(d), these references were previously cited by or submitted to, the Office in parent patent application Serial No. 08/193,725, and therefore copies of the cited references are not required.

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### **Publications**

OHKUBO, et al., "16Mbit SRAM Cell Technologies for 2.0V Operation," 1991 IEEE, IEDM, pp. 91-481 - 91-484.

LIU, et al., "Inverted Thin-Film Transistors with a Simple Self-Aligned Lightly Doped Drain Structure," IEEE Transactions on Electron Devices, Vol. 39, No. 12, December 1992.

LIU, et al., "High Reliability and High Performance 0.35μm Gate-Inverted TFT's for 16Mbit SRAM Applications Using Self-Aligned LDD Structures," 1992 IEEE, IEDM 92-823 - 92-826.

FURUTA, et al., "Hot-Carrier Induced Ion/Ioff Improvement of Offset PMOS TFT," 1991 Symposium on VLSI Technology, Digest of Technical Papers, IEEE Cat. No. 91, Ch. 3017-1, pp. 27-28.

WOLF, et al., Silicon Processing for the VLSI Era, Vol. 1 - Processing Technology, 1986, Lattice Press, pp. 308-309.

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DIVISIONAL APPLICATION

FICHTNER, W. et al., "Experimental Results on Submicron-Size p-Channel MOSFET's," IEEE Electron Device Letters, Vol. EDL-3, No. 2 (February 1982).

Article entitled "A Polysilicon Transistor Technology for Large Capacity SRAMs"

by S. Ikeda, et al., IEDM 90, pp. 469-472, 1990.

Article entitled "A 5.9 μm<sup>2</sup> Super Low Power SRAM Cell Using a New Phase-Shift

Lithography" by T. Yamanaka, et al., IEDM 90, pp. 477-480, 1990.

HAYASHI, et al., "A High Performance Polysilicon TFT Using RTA and Plasma Hydrogenation Application to High Stable SRAMs of 16Mbit and Beyond," 1992 Symposiun on

VLSNtechnology Digest of Technical Papers, 1992 IEEE, pp. 36-37.

Applicant hereby expressly reserves the right to swear behind the effective dates of any of

the above Patents and to question the relevance and materiality of the Patents and Publications listed

herein, in whole, in part, or in combination, subsequent to filing this Information Disclosure

Statement.

Respectfully submitted,

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3-29-04

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					First Named Inventor	Ravishankar Sundaresan
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$\overline{}$	Sheet	1	of	3	Attorney Docket Number	91-C-134D2 (STMI01-00098)

			U. S. PATENT	DOCUMENTS	
Examiner Initials*	Cite No. <sup>1</sup>	Document Number  Number-Kind Code <sup>2 (f known)</sup>	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA	<sup>US-</sup> 4,581,623	04/08/1986	Wang	
	AB	<sup>US-</sup> 4,592,825	08/28/1990	Yoshida	
	AC	_ <sup>us-</sup> 5,112,764	05/12/1992	Mitra et al	
	AD	<sup>US-</sup> 5,198,379	03/30/1993	Adan	
	AE	<sup>US-</sup> 5,262,655	11/16/1993	Ashida	
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		FORE	IGN PATENT DOCL	JMENTS		
Examiner Initials*	Cite No.1	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages	Γ
		Country Code <sup>3</sup> "Number <sup>4</sup> "Kind Code <sup>5</sup> (if known)	MM-DD-YYYY	, ppindant of Chod Doddingh	Or Relevant Figures Appear	T <sup>6</sup>
	AF	JP 7132365	08/16/1982			
	AG	JP 3-260162	10/27/1988	NEC Corp		Г
	АН	JP 1-179367	07/17/1989	NEC Corp		
	Al	JP 1-214172	08/28/1989	Nippon Teleg.		
	AJ	JP 1-260857		Oki Electric		
	AK	JP 2-23669	01/25/1990	Seiko Epson		

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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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U. S. PATENT DOCUMENTS								
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	ВА	JP 2-197173	08/03/1990	Fujitsu Ltd.		T
	ВВ	JP 2-99478	04/05/1990	Toshiba Corp.		F
	ВС	EP 0 457 434 A1	11/21/1991	Sharp Kabushiki		
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		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	CA	OHKUBO, et al., "16Mbit SRAM Cell Technologies for 2.0V Operation," 1991 IEEE, IEDM, pp. 91-481 - 91-484.	
	СВ	LIU, et al., "Inverted Thin-Film Transistors with a Simple Self-Aligned Lightly Doped Drain Structure," IEEE Transactions on Electron Devices, Vol. 39, No. 12, December 1992.	
	СС	LIU, et al., "High Reliability and High Performance 0.35 mm Gate-Inverted TFT's for 16Mbit SRAM Applications Using Self-Aligned LDD Structures," 1992 IEEE, IEDM 92-823 - 92-826	
	CD	FURUTA, et al., "Hot-Carrier Induced Ion/Ioff Improvement of Offset PMOS TFT," 1991 Symposium on VLSI Technology, Digest of Technical Papers, IEEE Cat. No. 91, Ch. 3017-1, pp. 27-28	
	CE	FICHTNER, W. et al., "Experimental Results on Submicron-Size p-Channel MOSFET's," IEEE Electron Device Letters, Vol. EDL-3, No. 2 (February 1982).	
-	CF	Article entitled "A Polysilicon Transistor Technology for Large Capacity SRAMs" by S. Ikeda, et al., IEDM 90, pp. 469-472, 1990.	
	CG	Article entitled "A 5.9 m2 Super Low Power SRAM Cell Using a New Phase-Shift Lithography" by T. Yamanaka, et al., IEDM 90, pp. 477-480, 1990.	-
	СН	HAYASHI, et al., "A High Performance Polysilicon TFT Using RTA and Plasma Hydrogenation Application to High Stable SRAMs of 16Mbit and Beyond," 1992 Symposium on VLSI Technology Digest of Technical Papers, 1992 IFFF, pp. 36-37.	
	CI	WOLF, et al., Silicon Processing for the VLSI Era, Vol. 1 - Processing Technology, 1986, Lattice Press, pp. 308-309.	

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